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ABBREVIATIONS

Amtrak	National Railroad Passenger Corporation
CAB	Civil Aeronautics Board
Conrail	Consolidated Rail Corporation
DOT	Department of Transportation
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
GAO	General Accounting Office
ICC	Interstate Commerce Commission
NHTSA	National Highway Traffic Safety Administration
4R Act	Railroad Revitalization and Regulatory Reform Act of 1976
UMTA	Urban Mass Transportation Administration
USRA	United States Railway Association
WMATA	Washington Metropolitan Area Transit Authority

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STUDY BY THE STAFF OF THE U.S.

General Accounting Office

COMPLETED
ORIGINAL

Transportation Issues In The 1980s

This study examines current and emerging transportation issues, with emphasis on congressional interests and concerns. It is based on GAO's plan for audits of Federal transportation programs. Topics discussed include

--perspective on transportation issues (ch. 1);

--transportation policy (ch. 2);

--rail freight service (ch. 3);

--auto safety and fuel economy (ch. 4);

--highways (ch. 5);

--trucking and rail regulation (ch. 6);

--mass transit (ch. 7);

--rail passenger service (ch. 8);

--aviation (ch. 9);

--ocean shipping (ch. 10);

--energy, environment, and technology (ch. 11); and

--organizations involved in transportation issues (app. I).

CED-80-133

SEPTEMBER 8, 1980

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FOREWORD

The Federal Government spends over $22 billion a year on programs involving the U.S. transportation system. Federal transportation programs include financial and technical aid, development and operation of transportation facilities and support services, economic regulation, research and development, and safety regulation.

This study is based on our plan for audits of Federal transportation programs. Chapter 1 presents a perspective on the current and emerging transportation issues which our audit work must address. Chapters 2 through 10 discuss selected major issues in detail and summarize our related audit work. Chapter 11 discusses long-range trends in energy, the environment, and new technology which will affect transportation during the coming decade. Appendix I presents an overview of the government agencies, congressional committees, private sector lobby groups, and research organizations involved in transportation issues.

Person to Contact

Please contact John Vialet, Issue Area Planning Director/Transportation, on (202) 426-1777 for information on this study and our current and planned work in transportation.

Henry Eschwege

Director
Community and Economic
Development Division

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GAO	General Accounting Office
ICC	Interstate Commerce Commission
NHTSA	National Highway Traffic Safety Administration
4R Act	Railroad Revitalization and Regulatory Reform Act of 1976
UMTA	Urban Mass Transportation Administration
USRA	United States Railway Association
WMATA	Washington Metropolitan Area Transit Authority

CHAPTER 1

PERSPECTIVE ON TRANSPORTATION ISSUES

OVERVIEW

Transportation affects the daily lives of all Americans--as passengers, consumers, employees, shippers, and investors. Transportation influences population distribution; economic development; the shape of cities; energy consumption; the balance of trade; business and farm access to markets and materials; and the pace, style, and quality of life. On the international scene, transportation is the connecting link which permits the exchange of goods and people among the nations of the world.

The national transportation bill--the total cost of all private and civilian government spending for transportation equipment and services--amounts to about $500 billion per year, equal to one-fifth of the gross national product. The National Transportation Policy Study Commission recently estimated that total private and government spending on transportation from 1975 through 2000 will exceed $14 trillion. The Federal Government alone spends more than $22 billion per year on transportation-related agencies and programs, not including its own purchases of transportation goods and services. These cost estimates actually understate the impact of transportation on our society, since they exclude the indirect social and environmental costs of accidental deaths and injuries, environmental pollution, urban sprawl, reduced mobility for the elderly and handicapped, and dependence on foreign energy sources.

Government at all levels--Federal, State, and local--has many responsibilities and roles in transportation. Federal responsibilities include:

--Promoting the development of an efficient and accessible national transportation system.

--Encouraging fair competition and protecting the public from abuse of monopoly power.

--Protecting the safety of travelers and cargo.

--Balancing environmental, social, and energy goals with transportation needs.

The diversity of Federal transportation programs influences the scope of our audit work in transportation. There is no single Federal program or "transportation problem" on which our work should focus. Instead, we must address many different problems and policy issues.

--The Nation's transportation problems are becoming increasingly complex, cutting across the traditional boundaries of transportation modes and Federal agency jurisdictions. Our most difficult transportation problems are multimodal (affecting several transportation modes) and intermodal (involving the interaction among transportation modes). How can we improve the effectiveness of Federal efforts to plan and coordinate multimodal/intermodal transportation policies and programs? What is needed to encourage greater coordination and cooperation among the transportation modes? (See ch. 2.)

--The freight railroad industry has severe economic and financial problems which are becoming worse as the economic recession deepens, and are likely to require increasing amounts of Federal aid. How can we improve the economic health of the Nation's railroads? (See ch. 3.)

--Automobiles play a vital role in the U.S. transportation system, but they impose substantial costs on society. Traffic accidents killed over 50,000 people in 1979. Automobiles are one of the largest contributors to air pollution and a major consumer of scarce energy supplies--the auto accounts for 40 percent of U.S. petroleum consumption. How effective are Federal efforts to improve motor vehicle and traffic safety and increase auto fuel economy? (See ch. 4.)

--Our highway system costs the Nation $32 billion a year, including $8 billion in Federal subsidies--and is rapidly deteriorating. What can we do to prevent highway deterioration? What are the most cost-effective ways to meet future highway needs? (See ch. 5.)

--Interstate Commerce Commission (ICC) regulation of the surface transportation industry is undergoing major changes as a result of actions by the Congress and the executive branch. What are the potential impacts of deregulation on railroads, trucks, and intercity buses? How can unnecessary regulations be eliminated while retaining needed protections for consumers, shippers, and carriers? (See ch. 6.)

--Federal aid for urban mass transit will cost $3.5 billion in fiscal year 1980 and may increase further if transit operating deficits continue to rise. How effective are Federal aid programs in helping local communities improve transit service? Are they achieving their broader goals, such as reduced air pollution and energy conservation? (See ch. 7.)

--Federal subsidies for rail passenger service will cost $912.7 million in fiscal year 1980. Is the rail passenger system cost effective? Is Amtrak being managed efficiently? What role should Amtrak play in solving our transportation energy problems? (See ch. 8.)

--Aviation faces serious problems--questions about the effectiveness of Federal safety regulations, shortages of airports, airport capacities, air traffic system capacity, and uncertainties about the long-range impacts of airline deregulation. Are Federal responsibilities for aviation safety and the airport and airways system being managed effectively? Is airline deregulation having any adverse effects on safety or consumers? (See ch. 9.)

--Despite continuing Federal subsidies, our maritime industries are declining and our ocean transportation system may be inadequate to meet national defense mobilization needs in a crisis. Can we find cost-effective ways to revitalize the U.S. merchant marine and shipbuilding industries? (See ch. 10.)

--The long-range future of the U.S. transportation system will be strongly influenced by developments in energy, environmental quality, and new technology. What are the emerging trends in energy, environmental quality, and new technology that will affect transportation during the 1980s? (See ch. 11.)

ISSUES FOR FUTURE AUDIT WORK

Our future audit work will focus on nine major transportation issues:

1. Transportation policy: Planning and coordinating multimodal/intermodal transportation policies and programs. (See ch. 2.)

2. Rail freight service: Restructuring and rehabilitating the railroad freight transportation system. (See ch. 3.)

3. Motor vehicles: Improving vehicle and traffic safety and developing more efficient and economical vehicles. (See ch. 4.)

4. Highways: Developing and maintaining a safe, adequate, and cost-effective national highway system. (See ch. 5.)

5. Interstate Commerce Commission: Determining the continued justification for and effectiveness of surface transportation economic regulation. (See ch. 6.)

6. Mass transit: Developing efficient and effective mass transit systems. (See ch. 7.)

7. Rail passenger service: Evaluating the effectiveness of intercity rail passenger service. (See ch. 8.)

8. Aviation: Developing a safe and efficient aviation system. (See ch. 9.)

9. Ocean shipping: Developing an adequate and cost-effective maritime industry and ocean transportation system. (See ch. 10.)

Chapters 2 through 10 of this study examine these issues in detail and summarize our related audit activities. Chapter 11 discusses long-range trends in energy, the environment, and new technology which will influence the development of the U.S. transportation system during the 1980s and beyond. Appendix I presents an overview of government agencies, congressional committees, private sector lobby groups, and research organizations involved in transportation issues.

Other transportation audit work

Although most of our future work in transportation will focus on the major issues listed above, congressional needs and our responsibilities for audit coverage of Federal transportation programs will require some audits which address other transportation issues. We have budgeted staff time to meet these requirements.

We also will conduct audits with implications for Federal transportation programs in such areas as accounting and financial reporting, energy, environmental protection programs, Federal procurement of goods and services, science and technology policies and programs, consumer and worker protection, land use planning and control, housing and community development programs, water and water-related programs, tax policy, and food.

CHAPTER 2

TRANSPORTATION POLICY:

PLANNING AND COORDINATING MULTIMODAL/INTERMODAL

TRANSPORTATION POLICIES AND PROGRAMS

ISSUE ANALYSIS

Unplanned, uncoordinated, and inconsistent transportation policies and programs reduce the efficiency of our transportation system. The National Transportation Policy Study Commission's June 1979 final report cites numerous examples of the adverse effects of insufficient planning and coordination and calls for a uniform and consistent national transportation policy. The Commission's recommendations stress the importance of careful planning, multimodal cooperation and coordination, and efficient integration of intermodal transportation activities and facilities. The importance of these recommendations is underlined by the Commission's forecast that total public and private transportation spending will exceed $14 trillion over the period 1975-2000.

Most Federal transportation programs are narrowly focused on a limited set of problems relating to a single transportation mode. Historically, new transportation programs and agencies were created whenever new problems arose, and little emphasis was placed on coordinating the new activities with existing programs. Over the years, this process of piecemeal and incremental growth produced the present decentralized organization of Federal transportation programs. As a result, the Department of Transportation (DOT) often finds it difficult to coordinate the plans and programs of its semiautonomous operating administrations, such as the Federal Aviation Administration (FAA) and the Federal Highway Administration (FHWA). At least 22 other Federal agencies with transportation-related programs are completely outside DOT's control, including the independent transportation regulatory commissions, the Maritime Administration, and the Corps of Engineers.

The lack of concern for planning and coordination which characterizes the history of Federal transportation programs is found throughout the Federal Government. For most of the history of the United States, rapid growth in national economic wealth and an abundance of natural resources made planning and coordination seem unnecessary. But natural resources such as petroleum and clean air, which formerly were abundant and cheap, have become scarce and expensive.

Growth in economic productivity and wealth has slowed. National standards for the quality of transportation have continued to rise in areas such as personal mobility, speed and comfort, environmental compatibility, cleanliness, and safety. We must spend increasingly more money to meet our transportation needs. All these factors have caused our transportation problems to become more complex, cutting across the traditional boundaries of transportation modes and Federal agency jurisdictions. Our most difficult transportation problems are multimodal (affecting several transportation modes) and intermodal (involving the interaction among transportation modes).

The need for effective multimodal/intermodal planning and coordination of Federal transportation policies and programs is becoming increasingly apparent. There is growing recognition that Federal policies regarding inland waterways, coal slurry pipelines, and trucking industry regulation affect the Nation's railroads; that the Federal highway program has important effects on Federal mass transit policy; and that uncoordinated Federal policies for automobile safety, fuel economy, and air pollution may adversely affect the economic health of the automobile industry. There is also increasing awareness that better intermodal coordination and cooperation among competing transportation modes can increase the overall efficiency of the transportation system and improve transportation productivity. Our audit work in this area will focus on the effectiveness of planning and coordination for Federal transportation policies involving multiple transportation modes, with emphasis on the following questions:

--How effective are Federal efforts to plan and coordinate a cohesive national transportation policy?

--How effective are Federal efforts to encourage and ensure safe and secure multimodal/intermodal transportation?

--How effective are Federal efforts to promote and encourage multimodal/intermodal planning, integration, and cooperation?

AUDITS IN PROGRESS

--Organization of the Office of the Secretary of Transportation and need for integrated planning and decisionmaking.

--Effectiveness of Federal efforts to plan coordinated transportation/energy policies and programs.

--Implications of higher fuel economy standards.

--Department of Transportation efforts to promote the safe transportation of hazardous materials.

--Cost-sharing alternatives for Northeast corridor rail freight and passenger service.

RECENT PUBLICATIONS

"Evaluation of Programs in the Department of Transportation" (PAD-79-13, April 3, 1979)

"Coal Slurry Pipelines: Progress and Problems for New Ones" (CED-79-49, April 20, 1979)

"American Seaports: Changes Affecting Operations and Development" (CED-80-8, November 16, 1979)

"Promotion of Cargo Security Receives Limited Support" (CED-80-81, March 31, 1980)

"The [National] Transportation Safety Board Could Improve Its Planning Process" (CED-80-101, May 28, 1980)

Letter Report to Representative Robert N. Giaimo: The Department of Transportation and the Environmental Protection Agency acted within the scope of their responsibility in providing contract funds for operation of the Citizen/Government Transportation Planning Center in Windsor, Connecticut (CED-80-99, June 19, 1980)

CHAPTER 3

RAIL FREIGHT SERVICE:

RESTRUCTURING AND REHABILITATING THE

RAILROAD FREIGHT TRANSPORTATION SYSTEM

ISSUE ANALYSIS

After nearly a decade of limited Federal financial intervention, brought about originally by the bankruptcy of the Penn Central and six other northeastern railroads in the early 1970s, rail freight service is still a seriously troubled industry. Two of the country's largest railroads, the Milwaukee Road and the Rock Island, are bankrupt and may be forced to discontinue service over large parts of their systems. The rate-of-return for the industry as a whole for the year ending June 30, 1979, was a discouraging 2.7 percent, and only a few of the most profitable railroads earn rates-of-return comparable to other industries. The Consolidated Rail Corporation (Conrail), the Government's creation and chief recipient of Federal financial assistance, is still struggling to overcome huge annual losses in running the restructured Northeast-Midwest rail system. The current economic recession has further weakened the railroads, sharply reducing freight volumes, operating revenues, and profitability.

The fundamental problems that underlie the railroads' present ill health are unchanged. Inadequate revenues and continued low earnings have discouraged capital investment and adequate spending on maintenance. Lack of money has produced widespread obsolescence and deterioration of track, facilities, and equipment. Outmoded and deteriorated rail systems produce poor rail service; poor service encourages shippers to seek other modes of transportation; and the cycle of declining revenues continues. The resulting pattern of economic decline has caused organized labor to resist changes in operating procedures which might cost their members jobs and has severely affected railroad labor productivity. Federal economic regulation of the railroad industry by the Interstate Commerce Commission has discouraged changes and adjustments that would normally occur in a competitive marketplace. As a result, railroads overlap, provide duplicate service, and continue to serve markets they would not serve if they were free to make decisions based on profitability. (ICC regulation is discussed in detail in ch. 6.)

Despite their problems, the railroads are an indispensable part of our freight transportation system, and their

importance may grow as an energy-efficient system for moving bulk commodities, such as grain and coal, and hazardous materials, such as chlorine and liquified natural gas. Recognizing the railroads' importance, the Congress has enacted extensive and costly legislation in recent years to try to help the industry solve its problems. For example, the Railroad Revitalization and Regulatory Reform Act of 1976 (the 4R Act, Public Law 94-210) provided $1.6 billion to rehabilitate and improve railroad facilities and equipment. This legislation has helped eight railroads to rehabilitate more than 2,100 miles of track and restore 8,800 locomotives and freight cars. However, much of the program authority is unused, and there seems to be little remaining interest in assistance solely to overcome deferred maintenance. The Congress is currently assessing the effectiveness of existing railroad assistance programs and considering such options as Federal aid for restructuring and consolidating track networks to reduce excess capacity and unnecessary operating and maintenance costs. Meanwhile, a series of major mergers between some of the Nation's largest railroads is underway and appears likely to result in a significant reorganization of the rail freight industry and its financial needs. Proposed legislation to reduce ICC's economic regulation of the rail industry is also likely to affect the railroads' financial health. (See ch. 6.)

The second major area of Federal financial involvement in the rail freight system has been Conrail. On April 1, 1976, Conrail took over the operations of six bankrupt railroads in the Northeastern United States, under a federally developed and financed reorganization plan aimed at achieving an economically workable Northeast rail system. The United States Railway Association (USRA), which developed the plans for Conrail, expected that Conrail would become profitable by 1979 and that the initial Federal investment of $2.1 billion would restore the railroad's physical and financial health.

The expected improvements in the Northeast rail system have failed to materialize. The original Federal investment in Conrail has grown to a current authorization of $3.3 billion, which is likely to be exhausted sometime in 1981. A recent USRA analysis said that Conrail may need another $1.4 billion before 1983. Conrail has never earned a profit and is expected to lose more than $300 million in 1980. Instead of the hoped-for streamlining of its route structure, Conrail has found it almost impossible to abandon uneconomic lines because of political opposition. Instead of the expected improvements in labor productivity, Conrail has had severe difficulties in consolidating and renegotiating labor agreements and controlling labor costs. Instead of achieving

needed improvements in management and operating efficiency, Conrail is still struggling to change archaic operating practices and systems developed over the decades.

The current economic recession has had disastrous effects on Conrail's freight volumes and revenues. In July 1980 Conrail's chairman stated that unless railroad regulatory reform legislation was enacted, allowing Conrail freedom to raise its rates, the corporation faced either bankruptcy, abandonment of 25 percent of its route system, or permanent status as a recipient of massive Federal subsidies amounting to de facto nationalization.

Railroad safety is also an issue of continuing interest and concern to the Congress. While the railroads are statistically the safest mode of transportation for freight, significant safety problems exist. Hundreds of railroad employees are killed at work each year, and spectacular accidents have focused national attention on the potential threats to human life and the environment that are posed by rail accidents involving hazardous materials. Although charged with regulating railroad safety, the Federal Railroad Administration (FRA) primarily inspects and reviews the railroads' own safety activities because of its limited budget. Our past audits have shown that FRA's effectiveness in even this limited role is questionable. Several States recently complained that accident rates have skyrocketed since FRA assumed its safety responsibilities.

Our audit work in this area will focus on the general problem of restructuring and rehabilitating the railroad freight transportation system, with emphasis on the following questions:

--How effective is Conrail's management?

--Will Conrail be a workable solution to northeastern rail transportation problems, and what are the alternatives to Conrail?

--How effective are Federal assistance programs for rail freight transportation?

--How effective is Federal rail safety regulation and enforcement?

AUDITS IN PROGRESS

--Conrail's inventory management.

--Cost-sharing alternatives for Northeast corridor rail freight and passenger service.

--Department of Transportation efforts to promote the safe transportation of hazardous materials.

--ICC efforts to minimize railroad freight car shortages.

--ICC implementation of Railroad Revitalization and Regulatory Reform Act ratemaking requirements.

RECENT PUBLICATIONS

"The Alaska Railroad: Its Management Is Being Improved; Its Future Needs To Be Decided" (CED-78-137, July 27, 1978)

"How Long Does It Take To Process Protected Employees' Claims?" (CED-78-138, July 31, 1978)

"Conrail Faces Continuing Problems" (CED-78-174, October 6, 1978)

"Need for Improved Action on Railroad Safety Recommendations" (CED-78-171, December 29, 1978)

"Information on Alleged Conrail Mismanagement of Contracting and Track Rehabilitation in Its Toledo and Ft. Wayne Divisions" (CED-79-41, February 23, 1979)

"Information on Questions about Conrail's Track Abandonment Program" (CED-79-45, April 2, 1979)

"Information on U.S. Railway Association Contracts with Law Firms" (CED-79-78, April 19, 1979)

"Employee Protection Provisions of the Rail Act Need Change" (CED-80-16, December 5, 1979)

"Conrail's 5-Year Plan for Abandoning or Discontinuing Service over Its Rail Lines" (CED-80-51, January 15, 1980)

"How the Law To Prevent Discrimination and Encourage Minority Participation in Railroad Activities Is Being Implemented" (CED-80-55, February 1, 1980)

"Conrail's Reduced Capital Program Could Jeopardize the Northeast Rail Freight System" (CED-80-56, March 10, 1980)

"Conrail's Attempts To Control Labor Costs and Improve Its Labor Productivity" (CED-80-61, June 20, 1980)

"Federal Assistance To Rehabilitate Railroads Should Be Reassessed" (CED-80-90, June 27, 1980)

"Problems in Implementing Regulatory Accounting and Costing Systems for Railroads" (FGMSD-80-61, July 17, 1980)

"Examination of United States Railway Association's Financial Statements, Fiscal Year 1979" (CED-80-107, July 31, 1980)

Letter Report to the President United States Railway Association (USRA) on management control issues identified during our financial audit of USRA (CED 347492, July 16, 1980)

CHAPTER 4

MOTOR VEHICLES:

IMPROVING VEHICLE AND TRAFFIC SAFETY AND

DEVELOPING MORE EFFICIENT AND ECONOMICAL VEHICLES

ISSUE ANALYSIS

Motor vehicle transportation is a central feature of American society. Motor vehicles are the primary mode of passenger transportation, carrying 2.3 trillion passenger miles per year compared with 0.1 trillion for all other modes combined. Motor vehicles handle a major share of freight transportation--about one-fifth of intercity ton-miles and most local freight transportation. Motor vehicles also impose substantial costs on society. Consumers pay billions of dollars a year for motor vehicle transportation--over $157 billion in 1975 for personal vehicles and operations. Traffic accidents kill thousands--over 50,000 people in 1979. Motor vehicles are one of the largest contributors to air pollution and a major consumer of scarce energy supplies--the automobile accounts for approximately 40 percent of U.S. petroleum consumption.

Increasing the safety of motor vehicle travel--through improvements in vehicle design and operating characteristics and through more effective driver-oriented traffic safety programs--is one of the Nation's most serious transportation challenges. Traffic accidents continue to be a leading cause of accidental death in the United States. Traffic fatalities hit a peak in 1972 when over 56,000 deaths were recorded. A sharp decline in the number of deaths occurred when the 55-mph speed limit was enacted after the 1973 oil embargo, and deaths dropped to 44,500 by 1975. Unfortunately, the decline was temporary, and by 1978 the number of deaths had once again risen to over 50,000.

For many years, traffic safety was considered to be the basic responsibility of the States. It was not until 1960 that the Congress took initial steps to involve the Federal Government by establishing a National Driver Register as an aid to State licensing authorities. Six years later, the Congress took a major step toward Federal involvement by enacting the National Traffic and Motor Vehicle Safety Act of 1966 and the Highway Safety Act of 1966. The overall effect of the 1966 legislation was to involve the Federal Government in regulating vehicle safety features and subsidizing State and local highway safety programs. Currently, the National Highway Traffic Safety Administration (NHTSA)

promulgates and enforces Federal motor vehicle safety standards for new and used motor vehicles, tires, and equipment; conducts safety research and development; and administers a program of Federal aid to State and local highway safety programs amounting to $198 million in 1980. The impacts and effectiveness of these programs are issues of priority concern to the Congress.

The Congress also has been concerned with the economic impact of automobile ownership and consumer protection. In the Motor Vehicle Information and Cost Saving Act of 1972, the Congress mandated bumper standards to reduce vehicle damages and odometer requirements to prohibit tampering with vehicle mileage figures. The 1972 law also established demonstration projects for testing the feasibility of diagnostic inspection procedures and required a comprehensive Federal study of vehicles' damage susceptibility, degree of crashworthiness, and ease of diagnosis and repairability. A 1975 amendment to this act added the requirement for automotive fuel economy standards to improve passenger car fuel efficiency. These programs are also administered by NHTSA.

In response to the 1973 Arab oil embargo, the Congress enacted the national 55-mph speed limit law. Although this law was initially passed as a fuel conservation measure, the number of highway deaths dropped sharply after the law was implemented. Our 1977 report found that many States were not enforcing the 55-mph speed limit, and average speeds were increasing. In 1978 the Congress enacted legislation to improve enforcement of the 55-mph speed limit by reducing the Federal highway funds which a State receives if it fails to enforce the speed limit. However, enforcement is still spotty, and continuation of the speed limit has become a politically controversial issue.

Although the energy crisis will make gasoline scarcer and more expensive, most observers believe that motor vehicles will continue to be the dominant mode of urban transportation for the remainder of this century. This means that the number of highway passenger miles can be expected to increase for some years to come and that motor vehicle accidents will also increase. The energy crisis will almost certainly result in increased highway safety problems, since the expected reductions in vehicle sizes and weights to save energy will also produce vehicles which are more susceptible to severe damage in accident situations.

The high price of gasoline and reduced demand for large automobiles have been important causes of the auto industry's recent economic problems. The Chrysler Corporation's severe financial difficulties in the late 1970s led to enactment

of the Chrysler Loan Guarantee Act of 1979 (Public Law 96-185) authorizing $1.5 billion in Federal loan guarantees. The current economic recession and competition from Japanese auto manufacturers are creating additional problems for the U.S. auto industry. For the first half of 1980, all U.S. auto manufacturers reported major losses. There is increasing concern within the Congress and the executive branch that Federal fuel economy, safety, and air pollution regulations and U.S. trade policy toward auto imports are contributing to the auto industry's problems. Greater coordination of Federal policies and programs involving the automobile and improved cooperation between Government and industry clearly are needed to restore the auto industry's economic health. Relaxation of Federal mileage, safety, and pollution standards is also being considered as a possible step to help the auto industry.

Our audit work in this area 1/ will focus on the general problem of improving vehicle and traffic safety and developing more efficient and economical vehicles, with emphasis on the following questions:

--How effective are Federal efforts to assist State and local government highway traffic safety programs?

--How effective are Federal efforts to implement and enforce motor vehicle safety standards?

--How effective are Federal efforts to implement motor vehicle fuel economy standards?

--How effective are Federal efforts to protect the economic and consumer interests of auto owners and operators?

AUDITS IN PROGRESS

--Implications of higher fuel economy standards.

--Management of the State and Community Highway Safety Grant Program.

1/This staff study does not discuss our activities and audit work relating to automotive air pollution, auto imports, or the Chrysler Loan Guarantee Act of 1979.

RECENT PUBLICATIONS

"The National Driver Register--A Valuable Licensing Tool That Needs To Be Improved" (CED-78-129, June 15, 1978)

"Unwarranted Delays by the Department of Transportation To Improve Light Truck Safety" (CED-78-119, July 6, 1978)

"The Drinking-Driver Problem--What Can Be Done about It?" (CED-79-33, February 21, 1979)

Letter report to NHTSA Administrator on NHTSA's highway safety management information systems (April 17, 1979)

"Passive Restraints for Automobile Occupants--A Closer Look" (CED-79-93, July 17, 1979)

Letter report to NHTSA Administrator on NHTSA's section 403 highway safety administrative expenses (September 20, 1979)

Letter Report to NHTSA Administrator commenting on the agency's plan to evaluate the occupant crash protection standard (CED-80-70, February 28, 1980)

"Highway Safety Research and Development--Better Management Can Make It More Useful" (CED-80-87, July 28, 1980)

"Highway Safety Research and Development--Better Management Can Make It More Useful" (CED-80-87A, July 28, 1980; supplement evaluating DOT comments on our report)

CHAPTER 5

HIGHWAYS:

DEVELOPING AND MAINTAINING A SAFE, ADEQUATE, AND COST-EFFECTIVE NATIONAL HIGHWAY SYSTEM

ISSUE ANALYSIS

Highway spending by all levels of government has grown substantially since the Federal Highway Trust Fund was established in 1956, increasing from $8.3 billion in 1956 to an estimated $34 billion in 1979. Despite this spending increase, actual capital investment in highway construction and improvements is declining, and we are failing to adequately replenish our national investment in the highway transportation system. Increasing expenditures for law enforcement, safety, interest payments, maintenance, and administration have reduced the amounts available for capital improvements from 60 percent in 1956 to an estimated 44 percent in 1979. Inflation has more than doubled the cost of highway construction, and environmental concerns now absorb about one of every eight Federal highway dollars.

A recent Department of Transportation study shows that after adjusting for inflation, capital improvement spending for highways actually decreased between 1967 and 1975--from $9.4 billion to $6.3 billion (calculation using constant 1967 dollars). Continuing high inflation since 1975, especially for highway improvements, has eroded the purchasing power of the relatively stable revenue even further. Moreover, highway traffic continues to increase, especially the number and weight of trucks. Many roads that were designed to carry 5 percent of their total traffic in trucks are now carrying up to 35 percent heavy truck traffic.

The result of declining capital improvement spending, increasing inflation, and increased vehicle usage is that our highways are wearing out faster than they are being repaired. FHWA has reported that the overall condition of the Nation's highways changed from good to fair between 1970 and 1975. Further deterioration, as evidenced by increasing numbers of potholes, occurred during the severe winters since 1976. Such evidence has caused the Congress, highway officials, and the public to become increasingly concerned about our highways' physical condition.

The backlog of deferred maintenance on about 8,000 miles of older interstate segments is estimated to cost

$2.6 billion (in 1975 dollars). The future need for major maintenance work on the entire interstate system is estimated to be $950 million annually. These funds are in addition to the estimated $40 billion needed to complete and bring up to full standards the interstate highway system. State officials told us they need an additional $67 billion over the next 20 years to meet similar needs on noninterstate roads of the State highway systems. Estimates of the potential cost of restoring all currently deficient roads range as high as $329 billion. The increasing weights of trucks and the downsizing of automobiles resulting from recent energy shortages will undoubtedly cause new problems for highway planners and designers in terms of both structural adequacy and safety.

The Congress and FHWA have placed high priority on completing the interstate system. In view of State and local funding problems for maintenance and rehabilitation, and in light of the $96 billion investment in Federal highway aid since 1956, it may be timely to reexamine this priority.

The Highway Trust Fund is the principal mechanism for funding Federal highway programs. The Trust Fund is supported by user charges--primarily the Federal gas tax--and provides over 90 percent of Federal highway funds. (The remainder is paid from general tax revenues.) User charges have not kept pace with the costs of building highways and are becoming increasingly inadequate as higher energy costs reduce gasoline consumption and associated gas tax revenues. Two major issues before the Congress are the adequacy of current user charges to meet future highway needs and the adequacy of the charges on different classes and types of users (such as heavy trucks) in relation to the costs they generate. A third issue is the potential effects of inflation. If inflation continues to be a major economic problem, increased highway user charges or general tax increases will be needed to meet our future highway needs.

The Congress has called on the Secretary of Transportation for a new cost allocation study to be completed by January 1982. Past cost responsibility had been based on incremental costs, but newly proposed Congressional Budget Office guidelines recommend allocation on a consumption basis. For example, if half of all pavement deterioration costs are attributable to truck traffic, trucks would be responsible for taxes in that amount.

In the immediate future, the Congress will be faced with the problem of expeditiously completing the interstate highway system. In the longer range, the problem will be determining the appropriate Federal role in managing and maintaining the existing highway system. A desirable change would be to increase the States' flexibility in the use of Federal highway funds by reducing the number of program categories and the corresponding redtape. Because of the great demand for limited amounts of highway funds, more emphasis will need to be directed at ensuring the quality of highway construction and maintenance operations. FHWA and the States also will need to improve the capacity of the present highway system with operating changes which do not require major capital investments, such as computerized traffic control systems and preferential treatment of buses and carpool vehicles.

Highway safety is an important aspect of highway construction. While traffic safety hinges largely on driver performance, often the roadway environment can cause driver error or prevent drivers from making the right decisions. Better engineered roadways decrease driver errors and provide a more forgiving environment when an error is made. Improved roadway environments have significant safety payoffs. For example, the accident fatality rate on interstate highways, which are designed to very high safety standards, is 50 percent below the national average and 500 percent below the rate on nonfederal-aid rural roads.

The Federal-Aid Highway Act of 1966 established several safety standards which are administered by FHWA. This act provided Federal aid to States for identifying hazardous locations and promoted increased attention to highway construction and maintenance standards, traffic signs, and pedestrian safety. Highway legislation in 1973 and subsequent years has provided funds both for administering the standards and for making actual improvements to remove safety problems caused by roadway condition or engineering design, such as bridges, high-hazard locations, and rail-highway crossings.

Our audit work in this area will focus on the general problem of developing and maintaining a safe, adequate, and cost-effective national highway system, with emphasis on the following questions:

--How effective are Federal and State efforts to finance and preserve the Nation's highways?

--How effective are Federal and State efforts to increase the safety of highway structures and the surrounding environment?

--How effective are Federal efforts to increase highway efficiency and capacity?

--What are the problems involved in, and alternatives to, additional highway construction?

AUDITS IN PROGRESS

--State and Federal financing for building and maintaining highways.

--Structural and safety conditions of our Nation's bridges.

RECENT PUBLICATIONS

Letter report to Representative Doug Walgren on special bridge replacement program (CED-78-139, June 23, 1978)

Letter report to Representative Abner J. Mikva on the proposed Crosstown Expressway in Chicago, Illinois (CED-78-135, June 30, 1978)

Letter report to Secretary of Transportation on Federal efforts to reduce redtape in highway construction (CED 34263, August 18, 1978)

"Solving Corrosion Problem of Bridge Surfaces Could Save Billions" (PSAD-79-10, January 11, 1979)

"Excessive Truck Weight: An Expensive Burden We Car No Longer Support" (CED-79-94, July 16, 1979)

Letter report to Representative Adam Benjamin, Jr., concerning the award of a contract for construction of a bridge in Lake County, Indiana (CED-79-118, August 3, 1979)

Letter report to the Federal Highway Administrator on the Interstate Resurfacing, Restoration, and Rehabilitation Program (CED-79-126, October 31, 1979)

Letter report to Sam M. Gibbons, Chairman, House Ways and Means Oversight Subcommittee on DOT truck size and weight study (CED-80-41, January 14, 1980)

"Highway Safety Research and Development--Better Management Can Make It More Useful" (CED-80-87, July 28, 1980)

"Highway Safety Research and Development--Better Management Can Make It More Useful" (CED-80-87A, July 28, 1980; supplement evaluating DOT's comments on this report)

CHAPTER 6

INTERSTATE COMMERCE COMMISSION: DETERMINING THE CONTINUED JUSTIFICATION FOR AND EFFECTIVENESS OF SURFACE TRANSPORTATION ECONOMIC REGULATION

ISSUE ANALYSIS

The Interstate Commerce Commission is an independent Federal agency with responsibility for the economic regulation of surface transportation. ICC has regulatory authority over almost all of the U.S. railroad industry and about one-third of the trucking industry (in terms of revenues). ICC also has limited authority over interstate bus lines, slurry pipelines, and some domestic water carriers. Criticism of ICC regulations has been directed primarily at ICC controls over railroads and commercial motor carriers.

The Railroad Revitalization and Regulatory Reform Act of 1976 attempted to give the railroads greater flexibility in setting and adjusting rail freight rates, and to streamline ICC's lengthy and cumbersome hearing procedures. But there is evidence that the reforms intended by the 4R Act have not been fully effective. ICC still appears to be forcing the railroads to cross-subsidize small shippers, and shippers on lightly used branch lines, by imposing uneconomic freight rate tariffs and by making it difficult or impossible to discontinue service. The railroads have been particularly concerned about their inability to competitively adjust freight rates without obtaining ICC approval and about the extreme slowness of ICC proceedings to set new freight rates or to approve corporate mergers.

Legislation is currently pending before the Congress which would give the railroads greater pricing flexibility and substantially reduce ICC regulatory controls over them. This legislation has encountered substantial opposition from shippers (especially of coal and grain) and small communities who fear that deregulation would result in higher rates and potential loss of service. In addition, ICC is planning administrative changes which will reduce railroad regulation and increase competition, such as elimination of railroad collective ratemaking.

In the motor freight carrier area, the Motor Carrier Act of 1980 (Public Law 96-296) has substantially reduced ICC controls over the trucking industry but has not resulted

in total deregulation. Critics of regulation had asserted that ICC limits on entry into the trucking business and detailed regulation of routes and commodities resulted in increased freight rates. Estimates of this "cost-of-trucking" regulation ranged from $0.5 to $3 billion per year, although a counterestimate by ICC asserted that regulation produced benefits of up to $4 billion per year. Supporters of regulation, including the American Trucking Association and the Teamsters Union, argued that trucking regulation produced a high-quality motor freight transportation system. They believed that deregulation would result in decreased truck service to small towns and small shippers and would cause financial instability within the trucking industry.

The Motor Carrier Act of 1980 addresses concerns about the potential adverse impacts of deregulation by phasing in regulatory changes and providing for a formal review of the impacts of deregulation. In addition, ICC continues to exercise substantial, although limited, regulatory authority over the trucking industry. Nevertheless, traditional ICC controls over entry into the business, routes served, and commodities carried have been largely eliminated by the new legislation.

In the intercity bus area, no major move toward deregulation has taken place so far. The larger bus companies like Greyhound and Trailways tend to favor less regulation. Small communities are concerned that they might lose service under deregulation, and small bus companies are concerned about the competitive power of the larger companies in the absence of ICC regulation.

There are still important questions about the potential effects of deregulation. The possible consequences of deregulation to shippers, communities, and carriers are not well understood, but it is clear that substantial economic displacements will inevitably occur. Some shippers and communities will benefit from better service and lower rates, but others will lose existing service or will have to pay higher rates to get it. Carriers that have operated without competition will have to compete, and investments in exclusive operating rights granted by ICC will lose their value. In the trucking industry, safety problems may increase as the role of independent owner-operators increases. The railroad industry has been entirely regulated since the 19th century; the railroads, unlike the trucking industry, have had no experience that would tell them what to expect in a deregulated environment.

Our audit work in this area will focus on the general problem of determining the continued justification for,

and effectiveness of, surface transportation economic regulation, with emphasis on the following questions:

--What are the effects of existing ICC regulatory policies on truck and rail pricing and costs?

--What are the impacts of ICC and State regulations on the financial condition of regulated transportation carriers?

--What ICC actions are needed to improve and protect service to passengers and shippers?

--How effective are ICC enforcement policies and procedures?

AUDITS IN PROGRESS

--How reasonable are the leasing fees charged by regulated motor carriers?

--ICC implementation of the 4R Act ratemaking requirements.

--ICC efforts to minimize railroad freight car shortages.

RECENT PUBLICATIONS

"ICC's Expansion of Unregulated Motor Carrier Commercial Zone Has Had Little or No Effect on Carriers and Shippers" (CED-78-124, June 26, 1978)

"'Weight Bumping'--Falsifying Household Moving Weights To Increase Charges--What ICC Needs To Do" (CED 79-75, May 1, 1979)

"Congress Must Legislate To Allow Independent Truckers To Haul for Private Carriers and Maintain Their Independent Status" (CED-79-99, June 15, 1979)

"ICC's Enforcement Program Can Be More Effective in Halting Violations and Preventing Their Recurrence" (CED-80-57, May 19, 1980)

"Problems in Implementing Regulatory Accounting and Costing Systems for Railroads" (FGMSD-80-61, July 17, 1980)

CHAPTER 7

MASS TRANSIT:

DEVELOPING EFFICIENT AND

EFFECTIVE MASS TRANSIT SYSTEMS

ISSUE ANALYSIS

Beginning in 1961 with amendments to the Housing Act authorizing loans and demonstration projects for mass transit, an extensive body of legislation has been enacted to provide Federal financial and technical assistance to urban mass transportation.

These programs were initially intended as short-term aid for financially distressed transit systems in the older cities. More recently, however, Federal mass transit programs have been directed at broader objectives, including (1) helping to maintain, improve, and expand existing mass transit systems to enhance the convenience and comfort of the millions who depend on them for daily travel, (2) using transit investment as a tool for community development and central city revitalization, (3) supporting transportation improvements that help strengthen the economic vitality of downtown areas and the quality of urban life, (4) improving mobility in low-density areas, especially for those such as the aged and handicapped who have no access to or cannot use an automobile, and (5) alleviating urban air pollution and reducing energy consumption.

While billions of dollars of Federal aid, and even larger amounts of State and local government aid, have been spent to halt the deterioration of urban transit services, more will be needed to modernize and expand existing transit systems and build new ones. To control costs, more emphasis needs to be placed on getting better use of existing transportation resources, including the coordinated use of nontraditional forms of mass transit and ridesharing, such as paratransit, taxis, carpools, and vanpools.

Population trends and corresponding land use and development patterns influence the types of transportation systems that develop. In central cities and the more densely populated areas of the Nation, conventional transit systems--buses and fixed guideways--will probably continue to be an important way of meeting mobility needs. Existing transit systems already represent a major capital investment in these areas. Although most transit systems are no longer losing riders and many have shown ridership gains, the costs of mass

transit service have increased substantially and transit system deficits continue to grow. The annual $2 billion gap between fare-box revenues and transit operating costs has achieved permanent status as a Federal, State, and local budget item. How these deficits should be financed and what can be done to reduce costs, or at least their rate of increase, also continue to be important issues. The appropriate roles and functions of Federal, State, and local governments in funding, management, and regulation need to be resolved.

Although the Federal Government has initiated major new efforts to revitalize central cities and some changes are beginning to occur, indications are that most new population and economic growth will continue to be in lower density areas. Conventional transit systems are not cost effective in less densely populated areas. Alternatives to conventional mass transit may be necessary to meet mobility needs in these areas. The Federal Government needs to decide whether and to what extent it will support some sort of flexible-route-and-schedule transportation systems using vehicles smaller than the conventional bus but larger than an auto (paratransit).

One of the great needs today is to reduce energy consumption. As illustrated by the mid-1979 gasoline shortage, transit systems cannot cope with sudden shifts in the demand for transit services. Even modest shifts from the automobile can strain public transit systems beyond capacity. With the prospect of continuing tight energy supplies, the lack of adequate alternatives to the single-occupant vehicle, particularly for work trips, makes the Nation vulnerable to serious economic and social consequences. Other means to reduce fuel consumption, such as programs to increase vehicle occupancy, are needed. Although increases in vehicle occupancy rates can drastically reduce energy consumption, such a shift requires a change in personal driving habits and restricts individual freedom of choice. As a result, increased vehicle occupancy is unlikely to occur voluntarily without major increases in fuel prices. Some observers have proposed Federal incentives or restrictions to reduce fuel consumption, but popular support for such measures has been limited. What the Government does to reduce or change transportation demand and reduce energy consumption will influence both transportation systems development and energy consumption. The experience of our friends in Western Europe and Japan may offer useful lessons for the United States.

The issue of how best to meet the transit needs of the elderly and handicapped is one of continuing controversy. Spokesmen for the elderly and handicapped believe that equal

access to all mass transit is a civil right. The Federal Government has proposed regulations which support full accessibility. Most transit systems believe that the cost will be very high and that the use of a fully accessible system by the handicapped would be low. They also question the availability of dependable equipment. The transit industry prefers to provide specialized transit service (paratransit).

Our audit work in this area will focus on the general problem of developing efficient and effective mass transit systems, with emphasis on the following questions:

--How effective is the Federal mass transit assistance program in achieving its goals relating to efficiency, mobility, congestion, pollution, and energy?

--How effective are Federal efforts to help the transit community improve its staff recruitment, training, and other human resource development activities and improve overall transit labor productivity?

--How effective are Federal efforts to improve existing transit technology, encourage technological innovations in mass transit, and develop new transit technologies?

--What is the impact of Federal funds and funding requirements on State and local transit decisions?

--What are the issues confronting the Washington Metropolitan Area Transit Authority (WMATA) and their implications for WMATA's future?

AUDITS IN PROGRESS

--Management and effectiveness of projects aimed at increasing the use of mass transit and other forms of ridesharing.

--Urban Mass Transportation Administration's (UMTA's) downtown people mover program.

--Impact and results of UMTA's research, development, and demonstration programs.

--Peaking phenomenon of urban travel and efforts made to minimize the peaks.

--Development of high-technology mass transit systems.

--Mass transit operating subsidies.

--Transit industry labor productivity problems.

RECENT PUBLICATIONS

"Need for More Federal Leadership in Administering Non-Urbanized Area Public Transit Activities" (CED-78-134, July 3, 1978)

Letter report to WMATA's General Manager on the Authority's entitlement to use Federal procurement services (August 15, 1978)

Letter report to the Secretary of Transportation on the Federal share of WMATA's interest cost being too large (CED-78-161, September 1, 1978)

Letter report to WMATA's Secretary Treasurer on needed security improvements over canceled farecards (September 21, 1978)

Letter report to WMATA's General Manager on review of cost estimating process (PSAD-78-141, December 8, 1978)

Letter report to WMATA's General Manager on suggestions for improving internal audit activities (January 16, 1979)

"Better Management of Metro [1/] Subway Equipment Warranties Needed" (PSAD-79-141, February 27, 1979)

"Issues Being Faced by the Washington Metropolitan Area Transit Authority" (CED-79-52, April 10, 1979)

"Communication and Management Problems Hinder the Planning Process for Major Mass Transit Projects" (CED-79-82, June 5, 1979)

"Problems Confronting U.S. Urban Rail Car Manufacturers in the International Market" (CED-79-66, July 9, 1979)

1/Metro is the rail transit system of the Washington Metropolitan Area Transit Authority.

"Stronger Federal Direction Needed To Promote Better Use of Present Urban Transportation Systems" (CED-79-126, October 4, 1979)

"Analysis of the Allocation Formula for Federal Mass Transit Subsidies" (PAD-79-47, October 9, 1979)

"Need for Controls by the Urban Mass Transportation Administration over No-Prejudice Authorizations" (PSAD-80-36, March 14, 1980)

"Metropolitan Atlanta's Rapid Transit System: Problems and Progress" (PSAD-80-34, April 9, 1980)

"The Rapid Transit System of Metropolitan Dade County, Florida, Has Slipped Its Starting Date 16 Months" (PSAD-80-49, June 5, 1980)

CHAPTER 8

RAIL PASSENGER SERVICE:

EVALUATING THE EFFECTIVENESS OF

INTERCITY RAIL PASSENGER SERVICE

ISSUE ANALYSIS

The Congress decided in 1970 that a stepped-up Federal effort was needed to halt the decline of intercity passenger train service in the United States and to retain and revitalize a realistic national network of rail passenger routes. The Rail Passenger Service Act, enacted in October 1970, involved the Department of Transportation in selecting a national network of routes and created the for-profit but quasi-public National Railroad Passenger Corporation (Amtrak) to take over, manage, and develop the routes. Amtrak was incorporated on March 30, 1971, and began operations on May 1, 1971.

Amtrak has received substantial Federal subsidies since its inception. From May 1971 through September 1978, it generated revenue of $1.8 billion but incurred operating expenses of more than $4.2 billion. During the same period, the Federal Government provided operating subsidies of about $2.1 billion, loan guarantees of $900 million, and grants of more than $386 million for Amtrak's capital acquisitions and improvements.

Amtrak grew substantially after it began operating in 1971. The number of Amtrak routes increased from 25 to 40, the number of trains per week went up 20 percent, and the train miles per week went up 40 percent. Yet, until the large ridership increases of 1979, ridership did not keep pace with the system's expansion. The recent ridership increases due to the energy crunch and the termination of some of Amtrak's most unprofitable routes should improve ridership statistics and economic performance.

Current uncertainties about the role intercity rail passenger service will eventually play in the U.S. transportation system make it difficult to predict how much national effort and resources will be devoted to the industry in the 1980s and beyond. Some authorities have suggested that if the Nation develops a system of reasonably economical high-speed trains, rails might become a more popular mode of intercity travel. Others believe that the future role for intercity rail passenger service will be in

the heavily populated areas of the Nation, such as the Northeast corridor, and that routes over long distances through rural areas are unlikely to become economically or socially justifiable.

The heavy Federal financial involvement in subsidizing Amtrak's operations has caused continuing congressional interest in how effectively Amtrak operates the intercity rail passenger system. In 1978 the Congress directed DOT to restudy the need for rail passenger service and recommend a revised national system that would go into effect automatically unless the Congress overrode it. DOT recommended in January 1979 that Amtrak's route system be reduced by 43 percent, with estimated savings of more than $1 billion over 5 years. The Congress did not override DOT's recommendations. However, the country experienced a disruption of its gasoline supply in spring and early summer 1979, and Amtrak's ridership soared. Trains were filled to standing, reservation backlogs were common, and the Congress and Carter administration began to have second thoughts about the service reduction.

In August 1979 the Congress passed legislation permitting some of DOT's recommended reductions but reinstating much of the service; providing criteria to use in evaluating possible future cuts; and authorizing Amtrak's funding for 3 years instead of 1 year as in the past. The result is an 18 percent reduction in service and a subsidy level that will be close to past levels.

A related problem of major importance and interest to the Congress has been Amtrak's Northeast Corridor Improvement Project. Begun in 1976 as a $1.75 billion project to provide fast, reliable rail service between the major cities along the northeastern seaboard, the project has fallen behind schedule and produced massive cost overruns. At the request of the Senate Appropriations Committee, we evaluated this project concentrating on (1) changes from the quality of facilities originally envisioned, (2) whether the project will be completed within the specified funding and time frame, and (3) the effectiveness of project management. Our March 1979 report found that the project had been reduced in scope, exceeded its planned budget, and was unlikely to meet its planned completion date. We pinpointed management problems that contributed to the project's malaise, and forecast a massive budget overrun. Our report proved prophetic. In May 1980 the Congress enacted the Passenger Railroad Rebuilding Act of 1980 (Public Law 96-254) providing an additional $750 million and setting a deadline of 1985 to complete a reduced version of the project.

Our audit work in this area will focus on the general problem of evaluating the effectiveness of intercity rail passenger service, with emphasis on the following questions:

--How efficient and effective is Amtrak's management of the rail passenger system?

--What progress is being made in completing the Northeast Corridor Transportation Improvement Project?

--What are the effects of Amtrak's recent route and service cutbacks on operations, revenues, and involved communities?

AUDITS IN PROGRESS

--Amtrak services provided by operating railroads.

--Problems in the Northeast Corridor Improvement Project.

RECENT PUBLICATIONS

"Should Amtrak's Highly Unprofitable Routes Be Discontinued?" (CED-79-3, November 27, 1978)

"Amtrak's Economic Impact on the Intercity Bus Industry" (PAD-79-32, January 12, 1979)

"Problems in the Northeast Corridor Railway Improvement Project" (CED-79-38, March 29, 1979)

"Amtrak's Inventory and Property Controls Need Strengthening" (CED-80-13, November 29, 1979)

"Alternatives for Eliminating Amtrak's Debt to the Government" (PAD-80-45, March 28, 1980)

"How Much Should Amtrak Be Reimbursed for Railroad Employees Using Passes To Ride Its Trains?" (CED-80-83, March 28, 1980)

CHAPTER 9

AVIATION:

DEVELOPING A SAFE AND

EFFICIENT AVIATION SYSTEM

ISSUE ANALYSIS

The efficient and effective management of Federal involvement in the aviation system and the careful coordination of Federal economic and safety responsibilities for aviation present difficult and complex problems.

The Federal Aviation Administration is primarily responsible for the development of a safe and efficient aviation system. To accomplish this, FAA conducts research; promulgates equipment and personnel standards; inspects and certifies airports, aircraft, and pilots; and operates a national air traffic control and navigation system for the orderly, safe, and efficient movement of aircraft through U.S. air space. In addition, FAA provides grants for airport planning and construction and partly finances air traffic and navigation facilities and equipment from Aviation Trust Fund revenues received from taxes on passenger fares, freight bills, and fuel.

There are over 12,000 airports in the United States and many of them have a comfortable surplus of capacity. However, many areas of high population density have an airport capacity problem. Years ago, airports were considered good neighbors and the solution to crowded facilities would have been simple: build new airports or expand existing ones. Because of the use of land for other purposes and opposition from environmentalists, additional airport capacity is now hard to come by in the areas where it is most needed.

Because of the projected increase in traffic and because of aging equipment, the 1980s will be extremely trying times for FAA as it attempts to maintain a safe and effective air traffic control system. The computers used in this system are obsolete and have experienced an increasing number of total failures during peak workloads, resulting in traffic delays and requiring controllers to rely on manual systems. FAA has plans to replace the system, but this will not happen until at least 1987.

The two worst accidents in the history of U.S. civil aviation occurred in September 1978 (San Diego, 142 fatalities) and May 1979 (Chicago, 275 fatalities). These two

accidents focused attention and criticism on the FAA system of air traffic control in terminal areas and on FAA monitoring and surveillance of air carrier maintenance activities. Despite these problems, air carriers continue to have a lower fatal accident rate for passenger miles traveled than the other forms of domestic passenger transportation.

Determining whether the general aviation safety record can be improved is a problem of growing concern to the Congress. General aviation, which has many more accidents and more fatalities than air carriers, improved its safety record through 1977, but in 1978 the accident rate increased somewhat, the first increase since 1971. Pleasure flying, a category of general aviation, accounted for about 30 percent of the total general aviation hours flown but had about half the total number of accidents and about 60 percent of the fatal accidents and fatalities.

Like many other businesses, the airlines continue to be plagued by rising costs, primarily of labor and fuel. Many FAA safety and noise standards and regulations require costly equipment additions or modifications to the carriers' fleets. Delays encountered in the air traffic system are also costly to the airlines--over $800 million in 1977 plus an additional 700 million gallons of fuel. Without appropriate increases in major airport capacities, delays are expected to increase substantially in future years. Low-capital alternatives to physically expanding airports, such as peak hour pricing and airport quotas, might relieve some air traffic congestion and delays. These issues were addressed in our September 1979 report to the Congress.

In addition to its other responsibilities, FAA manages and operates Washington National Airport and Dulles International Airport. From time to time questions have been raised about the effectiveness of FAA management of these airports. The most recent questions concerned FAA's laxity in dealing with the concessionaires running airport shops, rental car agencies, etc.

Economic regulation

Historically the Civil Aeronautics Board (CAB) was responsible for economic regulation of the commercial air carrier industry--authority to enter the industry, selection of intercity routes, and control over the establishment of passenger fares and cargo rates. All this has now changed. Legislation deregulating domestic air cargo operations (Public Law 95-163) was enacted in November 1977, and CAB now has only limited control over the air cargo industry. While some shippers have complained about declines in service, increased freight rates, and decreased carrier

liability limits, overall reaction to deregulation of the air cargo industry seems favorable.

Legislation to deregulate the domestic airline passenger industry was enacted in October 1978 (Public Law 95-504). The purpose of the legislation is to allow the forces of marketplace competition to determine the price, quality, and variety of air service for the air transportation system. Deregulation is to take place in scheduled phases. CAB will no longer regulate domestic route matters after December 31, 1981; it will no longer regulate domestic passenger fares after January 1, 1983; and it will cease to exist as an agency on January 1, 1985.

In international aviation, considerable concern has been expressed as to whether the United States has an overall national aviation policy and the proper organizational structure for effectively implementing such policies. In February 1980 the Congress enacted the International Air Transportation Competition Act (Public Law 96-192) which addresses these problems. It formulates an overall policy for use by U.S. international negotiators and reorganizes procedures by which the United States is to react to discriminatory practices against U.S. airlines by foreign governments.

Our audit work in this area will focus on the general problem of developing a safe and efficient aviation system, with emphasis on the following questions:

--What are the effects of the deregulation of the airline industry?

--How effective are FAA efforts to ensure a safe aviation system?

--How effective is FAA management of the air traffic control system?

--How efficiently and effectively does FAA manage its facilities?

--How effective are Federal efforts to meet future airport capacity needs?

AUDITS IN PROGRESS

--Impacts of passenger deregulation.

--FAA enforcement of flight standards.

--FAA management of airport control towers.

--FAA's planned national communication system.

RECENT PUBLICATIONS

"Second-Career Training for Air Traffic Controllers Should Be Discontinued" (CED-78-131, June 29, 1978)

"Airline Passengers: Are Their Consumer Rights Protected?" (CED-78-143, July 20, 1978)

"Environmental Effects of Airport Development: Better Assessment Needed" (CED-78-156, August 22, 1978)

"Status of the Federal Aviation Administration's Microwave Landing System" (PSAD-78-149, October 19, 1978)

"Commercial Safety Regulations Are Avoided by Some Large Aircraft Operators" (CED-79-10, November 21, 1978)

"The Navstar Global Positioning System--A Program with Many Uncertainties" (PSAD-79-16, January 17, 1979)

"Selected Budget Issues in the Federal Aviation Administration" (PAD-79-61, March 15, 1979)

"Developing a National Airport System: Additional Congressional Guidance Needed" (CED-79-17, April 17, 1979)

"Should Navstar Be Used for Civil Navigation? FAA Should Improve Its Efforts To Decide" (LCD-79-104, April 30, 1979)

"Protecting Consumer Rights in the Tour Industry: Who Is Responsible?" (CED-79-108, July 23, 1979)

"Aircraft Delays at Major U.S. Airports Can Be Reduced" (CED-79-102, September 4, 1979)

Letter report to the Chairman, CAB, on need to expand CAB's sunset planning (CED-80-46, January 4, 1980)

"How To Improve the Federal Aviation Administration's Ability To Deal with Safety Hazards" (CED-80-66, February 29, 1980)

"FAA Has Not Gone Far Enough with Improvements to Its Planning and Acquisition Processes" (PSAD-80-42, June 4, 1980)

CHAPTER 10

OCEAN SHIPPING:

DEVELOPING AN ADEQUATE AND COST-EFFECTIVE

MARITIME INDUSTRY AND OCEAN TRANSPORTATION SYSTEM

ISSUE ANALYSIS

The Maritime Administration and the Federal Maritime Commission are the two primary Federal agencies involved in the U.S. maritime industry. The Maritime Administration is responsible for subsidy and other programs to promote a strong U.S. merchant marine for the waterborne carriage of foreign and domestic commerce and to serve as an aid to national defense. The Federal Maritime Commission is responsible for economic regulation of water carriers engaged in the foreign and domestic commerce of the United States.

The United States emerged from World War II with the world's largest merchant marine. In the immediate postwar years, our merchant fleet handled more than half of the Nation's foreign trade tonnage, transporting 58 percent of U.S. import/export cargoes in 1947. With each successive year, foreign-flag fleets increasingly carried more of our foreign commerce, reducing U.S.-flag participation to 42 percent in 1950, 23 percent in 1955, 11 percent in 1960, and by 1969, 4.5 percent.

The Congress, recognizing that major changes were needed in order to revitalize the American merchant marine, enacted the Merchant Marine Act of 1970. This act was the most comprehensive revision of the national maritime laws in over three decades, providing for (1) a long-range merchant shipbuilding effort of 300 ships in 10 years, (2) the reduction of liner carriers' dependence on operating subsidies, and (3) the buildup of the U.S.-flag bulk fleet for American foreign commerce. Approximately $4.2 billion in direct Federal subsidies has been spent on these programs to date, but the goals have not been achieved--83 ships had been started by 1979 compared with the 10-year goal of 300 ships.

In 1975 the House Committee on Merchant Marine and Fisheries initiated oversight hearings into the continuing problems of the American merchant marine. Two of the committee's concerns were that (1) at the halfway point in the 10-year program, less than 60 new vessels had been contracted for construction and (2) the rapidly increasing strength of the Soviet merchant marine had surpassed that of the United States in terms of number of vessels.

The hearings resulted in the raising of many issues and a number of recommendations for resolving the problems of the American merchant marine. However, legislation reversing the decline of our maritime industry did not result. A cargo preference bill requiring that specific percentages of U.S. oil imports be carried on U.S.-flag vessels was introduced in the 95th Congress. Many believed that cargo preference for commercial cargoes was the way to revitalize the maritime industry. However, this bill was defeated in the House, partly as the result of our study showing the cost of the legislation.

Events of the 1970s have added new dimensions and greater complexity to the Congress' deliberations over national maritime policy. These include the increased Soviet presence in world shipping at apparently below-cost rates; the continuance of the container revolution of the 1960s, which resulted in new and efficient intermodal concepts; more technologically advanced and costly ships; the rapidly rising cost of fuel, which puts the generally steam-turbine-driven U.S.-flag fleet at a disadvantage compared with the more efficient diesel-powered vessels of most foreign-flag fleets; and the cutrate pricing of foreign shipyards. Indications are that the 26 U.S. shipbuilding yards will decline to 8 or 9 by 1984. Two of 10 Government-subsidized liner companies have gone bankrupt over the past 2 years, while other subsidized companies are operating marginally. There are no indications that the U.S. will be able to increase its share of foreign shipping trade from its current 5 percent level. The numerous bills currently being considered by the Congress are indications of the many issues involved and the lack of any clear-cut Federal maritime policy.

During 1978-79, an Interagency Task Force within the executive branch reviewed Federal maritime policies and developed recommendations addressing both marine regulation and promotion. In transmitting these to the Chairman, House Committee on Merchant Marine and Fisheries, the President emphasized that (1) Federal regulation of the ocean shipping industry deserves prompt review by the Congress, (2) programs to encourage construction of dry-bulk vessels need to be overhauled, (3) national policies favoring open ports and free competition for cargo must be reaffirmed, and (4) the Federal Government itself must begin to address maritime problems in a more unified and coherent way. Recent statements by the Secretary of the Navy indicate strong concern that our merchant marine is unable to meet mobilization needs in a defense crisis.

Recently, numerous bills addressing both promotional and regulatory issues have been introduced in the Congress

to revitalize and strengthen the American merchant marine industry. An omnibus bill introduced by the Chairman, House Committee on Merchant Marine and Fisheries, addresses a number of promotional and regulatory issues. These include the lack of a single, consistent, effective national maritime policy; the failure of the Secretaries of Commerce and the Navy to coordinate for providing a merchant fleet for national defense needs; the need for coordination among all Federal agencies concerned with maritime problems; and the fragmentation of Federal maritime policies and programs.

Our audit work in this area will focus on the general problem of developing an adequate and cost-effective maritime industry and ocean transportation system, with emphasis on the following questions:

--How efficient and effective are Federal promotional programs to provide for a U.S. maritime industry consistent with national objectives?

--How efficient and effective are the Federal Maritime Commission's regulatory activities?

AUDITS IN PROGRESS

--Maritime Administration operating differential program.

--Economic analysis of the international liner shipping industry.

RECENT PUBLICATIONS

"Cargo Preference Program for Government-Financed Ocean Shipments Could Be Improved" (CED-78-116, June 8, 1978)

"Navy Should Reconsider Plans To Acquire New Fleet Oilers and Ocean Tugs" (LCD-78-234A, August 30, 1978)

"The Maritime Administration and the National Maritime Council--Was Their Relationship Appropriate?" (CED-79-91, May 18, 1979)

"American Seaports: Changes Affecting Operations and Development" (CED-80-8, November 16, 1979)

"Essential Management Functions at the Federal Maritime Commission Are Not Being Performed" (CED-80-20, January 18, 1980)

"The Coast Guard--Limited Resources Curtail Ability To Meet Responsibilities" (CED-80-76, April 3, 1980)

"The Coast Guard's Programs of Aids to Navigation along Louisiana's Coast Could Be More Effective" (CED-80-58, April 11, 1980)

CHAPTER 11

LONG RANGE TRENDS:

ENERGY, ENVIRONMENTAL QUALITY,

AND NEW TECHNOLOGY

Energy, environmental quality, and new technology are broad societal issues which affect almost every aspect of transportation. The interaction between these issues and the U.S. transportation system is discussed in the following long-range perspective on the 1980s and beyond.

ENERGY

The energy crisis cuts across traditional modal boundaries and presents a number of difficult problems for the transportation system. The close relationship between transportation and energy was dramatically illustrated by the gasoline shortages in the spring and summer of 1979. During the subsequent rapid escalation of gasoline prices, millions of American motorists received a painful lesson on the economic relationship between energy and transportation. The transportation system is (1) a vital economic sector for which adequate energy supplies at economically efficient prices must be assured, (2) a prime target for national energy conservation efforts, and (3) a major element in the energy materials distribution system.

As the 1979 fuel shortages demonstrated, the energy supply is an essential factor of transportation production; without energy, the transportation system cannot function. The substantial and sudden gasoline price increases in 1979 seriously affected consumer demand for larger automobiles and contributed to the financial problems of the U.S. auto industry. The average price of jet fuel climbed from 40 cents per gallon in January 1979 to 69 cents per gallon in October, adding an estimated $2 billion to airline costs in 1979. The rapid increase in fuel costs and scarcity of fuel also placed major strains on the trucking and railroad industries--forcing rate increases and creating logistical problems in obtaining adequate fuel supplies. Passenger trains and intercity buses were filled to capacity, and ridership on urban mass transit increased dramatically as auto users shifted to other modes of transportation.

Because transportation is a major user of energy resources, it has become a primary target of national efforts to conserve energy. The U.S. transportation system is one of the Nation's largest energy consumers, accounting for

33 percent of end-use energy consumption and 70 percent of distributed petroleum products consumption. The automobile alone accounts for approximately 40 percent of U.S. petroleum consumption, and reducing automobile energy consumption is a major goal of Federal energy conservation plans. Public attention is also focusing on the possibilities for energy conservation through increased use of energy-efficient transportation modes--mass transit, railroads, and inland waterways--and more efficient use of existing modes, such as vanpooling and carpooling.

The U.S. transportation system plays a vital role in distributing energy materials throughout the economy. Railroads, pipelines, highways, inland waterways, and supertankers form a complex transportation network through which coal, petroleum, and natural gas are distributed to refineries, industries, utilities, and consumers. Economic inefficiencies in the energy transportation network are inevitably reflected in the delivered price of energy materials, and thus in the price of energy as a factor of production. In the long run, the productivity of the U.S. economy will be strongly influenced by the efficiency with which Americans plan and operate the energy transportation network.

Looking ahead to the 1980s, it is likely that present reliance on the family automobile as the primary mode of urban passenger transportation will continue. The auto is already decreasing in size--and is likely to become much smaller--in order to adjust economically to higher energy prices.

Americans' preference for single-passenger, long-distance suburban commuting by private automobile will probably change radically over the next decade. Greater reliance on carpools, a shift toward shorter commuting trips, and increased commuting by public transit are likely to result. Also likely is a change in the preferred location of middle-income residential areas from the outer suburbs to the inner suburbs and central city. Improved financial viability for public transit systems may also result as private auto travel becomes less economically attractive.

Some transportation planners are concerned that the private automobile will become obsolete because of the unavailability of petroleum-based fuels, with disastrous consequences for the economy and quality of life. But alternative propulsion technologies have been available for many years. Electric-powered motor vehicles have been in operation for more than 50 years, and combustion engines burning coal-derived fuels were used extensively during World War II to propel trucks and automobiles.

As the price of petroleum fuels continues to rise, use of these alternative technologies in the private automobile will become increasingly economically feasible.

Despite the concerns voiced by many energy conservationists, it appears unlikely that the energy crisis will radically change the modal characteristics of intercity passenger travel during the next 10 to 15 years. From the standpoint of energy efficiency, a fully loaded passenger automobile compares favorably with other modes of intercity travel. Rising energy costs are likely to foster more efficient use of existing modes, such as the recently introduced trans-Atlantic air shuttle. Some shift of passenger traffic to intercity passenger trains is possible, particularly if very large energy price increases or prolonged fuel shortages occur--Amtrak's ridership increased dramatically during the 1979 fuel shortage.

The energy crisis is already having major impacts on the freight transportation system. For the freight railroads, the expected increases in demand for coal transportation will create problems but also great opportunities. Massive requirements for new equipment and facilities and for modernization of the existing system will strain the railroads' financial and management capabilities. At the same time, the assurance of a growing and profitable market for rail freight services may be the financial medicine which is needed to cure the railroad industry's economic malaise. Coal slurry pipelines may capture a portion of this traffic, but there are serious questions about the potential economic and environmental impacts of this mode--especially its effects on the railroad industry and on western water supplies.

The energy crisis may also result in increased economic viability and public support for the inland waterway industry. Because the waterways are very energy efficient, they are well suited to line-haul transportation of high-bulk/low-value commodities like coal. In some cases the use of less energy-efficient transportation modes like trucks to bring coal to and from the waterways may reduce the net energy savings, but the waterways appear likely to play an important role in the future coal transportation network. Over the next decade, the resulting expansion of existing waterway facilities may also encourage greater use of the energy-efficient waterways for other transportation needs.

ENVIRONMENTAL QUALITY

A second important factor in shaping the future U.S. transportation system over the next decade will be the quality of the physical environment. Several interactions between the environment and transportation are likely to be of particular importance. First, the interaction of transportation and air quality will continue to present difficult and possibly insoluble conflicts. Historically, automobile emissions have been a major contributing factor to air pollution. Modifications in automobile technology have substantially reduced the emissions from individual vehicles, but aggregate emissions from all vehicles continue to present a serious problem.

One often proposed solution is the absolute prohibition of automobile travel in the most heavily impacted urban areas, coupled with drastic reductions in auto travel elsewhere. To date, the Nation has rejected this and related solutions (such as heavy taxes on central city auto travel) because they have seemed incompatible with the need for personal mobility and with consumer preferences for the automobile.

In the foreseeable future, the most promising areas for solution of this conflict are side effects of the energy crisis. Reductions in automobile size and energy consumption will also reduce air-polluting emissions from automobile engines. Shifts from single-occupancy driving to carpools and from autos to mass transit will also reduce air-polluting emissions. Finally, some new automotive technologies, such as the battery-powered car, will reduce the emissions of individual cars and shift the pollution effects to more easily controllable electric generating plants.

Concern for environmental quality is also likely to shape the character and economic costs of additions to our transportation system's physical plant and facilities. In the aviation area, community concern over aircraft noise has already placed a virtual lid on new airport construction in many parts of the country. Requirements for Government ownership and control of noise-impacted zones around airports are likely to increase new airport costs and airport expansions. In addition, meeting Federal aircraft noise standards poses financial problems for commercial airlines, which will be required to retrofit, reengine, or replace many existing aircraft. Legislation easing Federal aircraft noise standards was passed by the Congress in February 1980 (Public Law 96-193).

Environmental quality considerations are also likely to exert a major influence on development of the future coal transportation system. The railroads are planning to make extensive use of continuous "unit" coal trains of up to 100 hopper cars in length (or more than 1 mile). At expected levels of up to 35 trains per day, some communities might be physically divided in half for several hours each day. This would disrupt traffic; delay essential hospital, fire, and police services; and effectively disrupt the life of the affected communities. To avoid these consequences, major public investments will be needed to provide rail-highway grade separation structures and alleviate other adverse effects.

NEW TECHNOLOGY

Traditionally, much of the speculation about future trends and developments in transportation has involved new technologies. Over the next decade, it is likely that some relatively new transportation technologies will come into greater use. However, there is little likelihood of a radical shift in the character of major transport technologies.

It is unlikely that unconventional high-speed ground transportation modes, such as tracked air cushion vehicles and magnetically levitated vehicles, will achieve widespread use during the next decade. At present, these technologies are in operation as engineering prototypes but are not economically feasible. However, increased energy costs and further engineering refinements may permit the practical implementation of these technologies in short-to-medium-distance intercity passenger service during the 1980s.

Short and vertical takeoff and landing aircraft have been operational for several decades and are in limited civilian use at present. Some further implementation of these vehicles in civilian passenger transport service is possible if costs can be further reduced.

In urban transportation, the most likely new technologies (as previously discussed) will involve shifts in automotive propulsion technology to non-petroleum-fuel-based engines. Urban mass transit is likely to make increased use of an old technology, the streetcar, and a new technology, the personal rapid transit system. The streetcar is receiving increasing attention because of its flexibility and economy. The personal rapid transit system also is a possible alternative to the automobile. It uses a computer-based automatic command and control system to route small transit vehicles (5-10 passengers) directly to

waiting travelers and then nonstop to their destination. If cost and reliability problems can be solved, this new technology could potentially combine the personal auto's attractiveness to consumers with the societal advantages of public transit.

Improvements in communications technology are also likely to exert an increasing influence on transportation. As new forms of communications--visual telephones and computerized message systems--become less expensive, physical travel will become unnecessary for many purposes. While physical travel will continue to be preferred for personal reasons, such as visits to relatives and tourist sites, business and government will make increasing use of electronic communications media as an economical alternative to physical travel.

APPENDIX I

ORGANIZATIONS INVOLVED

IN TRANSPORTATION ISSUES

FEDERAL AND FEDERALLY SUPPORTED AGENCIES

The Federal Government is involved in many programs which affect the U.S. transportation system. Some of the most important Federal transportation programs are administered by the Department of Transportation. However, many other Federal agencies also conduct transportation-related programs, ranging from the aviation and marine weather services of the Commerce Department's National Oceanic and Atmospheric Administration to the inland waterway development projects of the Army Corps of Engineers. Federal and federally supported agencies which administer transportation-related programs include:

Federal agencies	Mode
Civil Aeronautics Board	Air
Council on Environmental Quality	All
Department of Agriculture:	
Forest Service	Highway
Department of Commerce:	
Maritime Administration	Water
National Oceanic and Atmospheric Administration	Air and water
Department of Defense:	
Military Research and Development	Air and water
U.S. Army Corps of Engineers	Water
Panama Canal Company	Water
Department of Energy:	All
Federal Energy Regulatory Commission	All
Department of Housing and Urban Development	Air, highway, and transit
Department of the Interior:	
Bureau of Indian Affairs	Highway
Bureau of Land Management	Highway and pipeline
National Park Service	Highway
Department of State	All
Department of Transportation:	
Office of the Secretary	All
U.S. Coast Guard	Water

Federal Aviation Administration	Air
Federal Highway Administration	Highway and transit
Federal Railroad Administration	Rail and transit
National Highway Traffic Safety Administration	Highway and transit
Research and Special Programs Administration	All
Saint Lawrence Seaway Development Corporation	Water
Urban Mass Transportation Administration	Transit
Department of the Treasury	All
Environmental Protection Agency	All
Federal Maritime Commission	Water
Interstate Commerce Commission	All except air
National Aeronautics and Space Administration	Air
National Transportation Safety Board	All
Tennessee Valley Authority	Water
U.S. Railway Association	Rail

Federally supported agencies	Mode
National Railroad Passenger Corporation (Amtrak)	Rail
Consolidated Rail Corporation (Conrail)	Rail
Washington Metropolitan Area Transit Authority (WMATA)	Transit

CONGRESSIONAL COMMITTEES

Because of the numerous Federal programs and activities in the U.S. transportation system, many congressional committees have responsibilities relating to some aspect of transportation. These committees, including those with broad transportation-related charters or with jurisdiction over one of the major transportation agencies, are listed below.

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House committees	Program category	Mode
1. Appropriations:		
a. Energy and Water Development	Facilities	Water
b. Transportation	All	All
2. Banking, Finance, and Urban Affairs		
a. Housing and Community Development	Financial	Transit
3. Government Operations		
a. Government Activities and Transportation	All	All
4. Interstate and Foreign Commerce		
a. Consumer Protection and Finance	Safety	Highway
b. Transportation and Commerce	All	Rail and water
5. Merchant Marine and Fisheries		
a. Coast Guard and Navigation	All	Water
b. Merchant Marine	All	Water
6. Public Works and Transportation		
a. Aviation	All	Air
b. Surface Transportation	All	All
c. Water Resources	All	Water
7. Science and Technology:		
a. Transportation, Aviation, and Communication	Research	All
Senate committees		
1. Appropriations		
a. Energy and Water Development	Facilities	Water
b. Transportation	All	All
2. Banking, Housing, and Urban Affairs	Financial	Transit
3. Commerce, Science, and Transportation		
a. Aviation	All	Air

APPENDIX I

b. Merchant Marine and Tourism	All	Water
c. Surface Transportation	All	All (except air)
4. Environment and Public Works		
a. Transportation	All	All
b. Water Resources	All	Water
5. Governmental Affairs	All	All

PRIVATE SECTOR LOBBY GROUPS

Transportation industry trade associations and consumer movement lobby groups play a major role in communicating the views of the private sector on national transportation issues to the Congress and the executive branch. Most of these lobby groups are Washington-based and can provide background information and statistics on transportation problems as well as informed criticism of current Government programs and policies. Some of the most active private sector lobby groups are listed below.

Lobby Group	Mode
Aircraft Owners and Pilots Association	Air
Airport Operators Council International, Inc.	Air
Air Transport Association of America	Air
American Association of State Highway and Transportation Officials	All
American Automobile Association	Highway
American Bus Association	Highway
American Institute of Merchant Shipping	Water
American Public Transit Association	Transit
American Trucking Associations, Inc.	Highway
Lake Carriers' Association	Water
American Waterways Operators, Inc.	Water
Association of American Railroads	Rail
Association of Oil Pipe Lines	Pipeline
Center for Automotive Safety	Highway
Insurance Institute for Highway Safety	Highway
Motor Vehicle Manufacturers Association	Highway
National Waterways Conference, Inc.	Water
Slurry Transport Association	Pipeline
Transportation Association of America	All
Water Transport Association	Water

RESEARCH ORGANIZATIONS

Research organizations provide an important source of independent views, expert analysis, and background information on transportation problems. University research institutes provide laboratory facilities, computers, and libraries for professors and students to conduct academic research. Such research is funded by universities, private sector sponsors, and Government agencies. Other private research organizations include independent nonprofit research institutes and profit-making research corporations. These organizations primarily perform contract research for private industry and governmental clients. Some prominent nonprofit research organizations now active in the transportation area are listed below.

Organization	Type
American Enterprise Institute, Center for the Study of Government Regulation	Nonprofit
Batelle Memorial Institute	Nonprofit
Brookings Institution	Nonprofit
Johns Hopkins University, Applied Physics Laboratory	University
Massachusetts Institute of Technology, Center for Transportation Studies	University
National Academy of Sciences, Transportation Research Board	Nonprofit
Northwestern University, Transportation Center	University
SRI International	Nonprofit
Rand Corporation	Nonprofit
Southwest Research Institute	Nonprofit
Texas A&M University, Transportation Institute	University
The MITRE Corporation (METREK Division)	Nonprofit
The Urban Institute	Nonprofit
University of California, Institute of Transportation and Traffic Engineering	University
University of Michigan, Highway Safety Research Institute	University
University of North Carolina, Institute of Highway Safety	University

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